List of Contents

NUMBER 1

Zhang Zhongping, Dang Jinbao and **Zheng Sitao**	1	The study of fracture properties in birefringent materials with improved method of caustics
D. J. Nicholls	9	Prediction of fatigue crack growth rates based on crack blunting
Xia Yuanming, Rao Shiguo and **Yang Baochang**	17	A novel method for measuring plane stress dynamic fracture toughness
M. L. Dunn	25	The effects of crack face boundary conditions on the fracture mechanics of piezoelectric solids
S. Xia, S. Takezono and **K. Tao**	41	A nonlocal damage approach to analysis of the fracture process zone
Y. H. Wang and **Y. K. Cheung**	53	Boundary collocation method for cracks emanating from a hole in an anisotropic plate
V. E. Mirenkov	63	Finite stress in fracture mechanics
P. K. Rastogi, P. Navi, Jia Wang, L. Pflug and **C. Huet**	69	Holographic study of displacement fields and crack propagation in notched wood specimens subjected to wedge-splitting tests
Yiwang Bao, Zongzhe Jin and **Xiaorui Li**	85	Evaluation of K_{1c} depending on sample size for ceramics
Ching-Hwei Chue, Long-An Lin and **Shang-Chih Wang**	91	Optimum selection of ply orientation in bonded repair under biaxial loading
M. Erbe, K. Galanulis, R. Ritter and **E. Steck**	103	Theoretical and experimental investigations of fracture by finite element and grating methods
Wang Rong Dao	119	Solution for an infinite plate with collinear radial cracks emanating from circular holes under biaxial loading by boundary force method
Hu Zhi-Zhong and **Cao Shu-Zhen**	127	Relationship between fatigue notch factor and strength
Takuji Okabe, Mitsuo Kido and **Takeshi Miyahara**	137	Fatigue fracture behavior of oxide ceramics in water
		Technical Note
N. I. Ioakimidis and **E. G. Anastasselou**	147	Derivation of the equation of caustics in Cartesian coordinates with Maple
	I	Software Survey Section

NUMBER 2

Salah E.-D. F. Taher, M. H. Baluch and **A. H. Al-Gadhib**	151	Towards a canonical elastoplastic damage model
K. Badari Narayana, B. Dattaguru, T. S. Ramamurthy and **K. Vijayakumar**	167	A general procedure for modified crack closure integral in 3D problems with cracks
M. S. Wu	177	Material anisotropy effects on stress intensity factors and the effective elastic compliance
H. E. Belsinger Jr, B. Wilner, U. Tasch and **L. D. T. Topoleski**	199	A fracture criterion for gallium arsenide wafers
Tie-Jun Wang	207	Improvements of J-integral criterion for ductile fracture characterized by a triaxiality parameter
Tie-Jun Wang	217	Further investigation of a new continuum damage mechanics criterion for ductile fracture: experimental verification and applications
P. S. Theocaris	231	The influence of shear on the failure mode of the transversely isotropic fiber composite
Chang-New Chen	247	Fatigue strength assessment by using a nonlinear finite element technique
E. G. Ladopoulos	257	Systems of finite-part singular integral equations in L_p applied to crack problems
L. J. Lee and **C. H. Wang**	267	Stress intensity factors by weight function method for cracked composite laminates
Guang-xu Cheng, Zhi-wen Lou and **Zhen-bang Kuang**	281	A new damage variable for low-cycle fatigue of metallic materials
Wang Yue-sheng and **Wang Duo**	289	Elliptic arc crack subjected to anti-plane shear wave
Technical Note **Liu Yongning** and **Zhou Huijiu**	299	High velocity impact test of a C–Mn steel and inertia effect
	I	Software Survey Section

NUMBER 3

R. Mu and **D. V. Reddy** 305 Stress intensity factors and weight functions for semi-elliptical cracks using finite element alternating method

Y. Murase, S. J. Duan and **K. Nakagawa** 325 Stress analysis around a circular interface crack between dissimilar media loaded by uniform tension at infinity

Li Zhen 339 Estimation of fatigue crack propagation rate in steel

Dai-Heng Chen, H. Nisitani and **T. Mura** 347 Effect of elastic constants on stress in multi-phases under plane deformation

M. A. Kattis and **A. P. Patia** 359 Thermal stress problem for a partly debonded rigid circular-arc fiber inclusion in an infinite matrix

L. P. Pook 367 Some implications of corner point singularities

V. V. Silberschmidt and **J.-L. Chaboche** 379 The effect of material stochasticity on crack–damage interaction and crack propagation

Shing-Dar Wang, Chen-Ti Hu and **Sanboh Lee** 389 Limitation of application of conformal mapping on the interaction of an edge dislocation and a crack

K. M. Liew, K. C. Hung and **M. K. Lim** 393 A solution method for analysis of cracked plates under vibration

J. Padovan and **Y. H. Guo** 405 Moving template analysis of crack growth—I. Procedure development

Y. H. Guo and **J. Padovan** 427 Moving template analysis of crack growth—II. Multiple crack extension and benchmarking

Hu Zhi-Zhong 445 Optimum balance between strength and ductility for fatigue properties

Technical Note

J. Paul, R. A. Bartholomeusz, R. Jones and **M. Ekstrom** 455 Bonded composite repair of cracked load-bearing holes

I Software Survey Section

NUMBER 4

Xiangqiao Yan, Weisheng Lei and **Mei Yao** 463 Application of cleavage characteristic stress theory to low-temperature brittleness evaluation of structural steel—a review

Cheer Germ Go and **Yee Shown Lin** 475 Infinitely small element for the dynamic problem of a cracked beam

Yutaka Toi and **Jung-Sin Che**	483	Computational damage mechanics models for brittle microcracking solids based on mesoscopic simulations
M. Konsta-Gdoutos	499	Solution of stress-corrosion crack problems by the method of caustics
K. Fujii, K. Nakagawa and **S. J. Duan**	505	A mathematical model of the strain-softening curve for crack extension
Ching-Hwei Chue and **Shang-Chih Wang**	515	Application of bonded patch and sleeve to cracked hole repair under biaxial load
C. Q. Ru and **R. C. Batra**	523	Plane strain deformations near the tip of a contacting interfacial crack in locking materials
Z. L. Zhang and **E. Niemi**	529	Studies on the ductility predictions by different local failure criteria
S. R. Daniewicz	541	Accurate and efficient numerical integration of weight functions using Gauss–Chebyshev quadrature
Li Xiang-Ping and **Liu Chun-Tu**	545	Three-dimensional transient wave response in a cracked elastic solid
E. N. Theotokoglou	553	Mode I caustics for the infinite cracked plate using the exact solution: one parameter dependent curves
D. L. Chen, B. Weiss and **R. Stickler**	561	A new approach for the determination of stress intensity factors for finite width plate
Lei Yang, Xiaomin Deng and **Yuh J. Chao**	573	Explicit expressions of transient elastodynamic crack tip fields for mixed-mode crack propagation
M. Bak and **H. A. Koenig**	583	Prediction of edge stresses in layered media using the surface integral–finite element technique
Hsien-Yang Yeh and **Chang H. Kim**	595	Mixed mode crack propagation studied by the Yeh–Stratton criterion
	I	Software Survey Section

NUMBER 5

Xiangqiao Yan, Weisheng Lei and **Mei Yao**	609	A theory of cleavage characteristic stress on low-temperature cleavage fracture in mild steel—a review
N. S. Raghavendran and **M. E. Fourney**	619	Stress analysis of a welded joint
Ja. E. Beigelzimer, B. M. Efros, V. N. Varyukhin and **A. V. Khokhlov**	629	Continuum model of the structural-inhomogeneous porous body and its application for the study of stability and viscous fracture of materials deformed under pressure

Y. Z. Chen	641	*T* stress in multiple crack problem for an infinite plate
S. Nomura and **D. L. Ball**	649	Stiffness reduction due to multiple microcracks in transverse isotropic media
Heping Xie, David J. Sanderson and **D. C. P. Peacock**	655	A fractal model and energy dissipation for en echelon fractures
José María Mínguez	663	Foreman's crack growth rate equation and the safety conditions of cracked structures
Alberto Carpinteri, Gerardo Ferrara and **Lorenzo Imperato**	673	Scaling laws for strength and toughness of disordered materials: a unified theory based on fractal geometry
Wen Pihua and **Fan Taihua**	691	The discontinuity displacement method applied to three-dimensional co-planar crack problem for any boundary value condition
V. N. Bastun	703	Fracture of thin-walled bodies with crack under biaxial loading
S. B. Liu and **C. L. Tan**	711	Two-dimensional boundary element contact mechanics analysis of pin-loaded lugs with single cracks
Fashang Ma and **Zhen-Bang Kuang**	727	Elastic–plastic fracture analysis of finite bodies—I. Description of the stress field
Fashang Ma and **Zhen-Bang Kuang**	739	Elastic–plastic fracture analysis of finite bodies—II. Conditions of fracture initiation
		Technical Note
Wei Zhi Yi	749	A new experimental approach to determine initial fatigue quality with fastener holes
	I	Software Survey Section

NUMBER 6

Wu Yong-li	755	A new method for evaluation of stress intensities for interface cracks
Wu Yong-li	763	Variable power singular interface elements for a crack normal to the bimaterial interface
Liu Yongning and **Zhou Huijiu**	773	Ductile to brittle fracture transition of a plain carbon steel and its thermal activation model
A. Kaczyński	783	Three-dimensional thermoelastic problems of interface cracks in periodic two-layered composites

K. Fujii, K. Nakagawa, S. J. Duan and **Y. Kato** 881 Stress function with finite magnitude of stress concentration around an interface crack

Jia Yen Huang 893 Studies of geometry effects on strain-energy release rate of composite laminate

S. Tarafder, M. Tarafder and **V. R. Ranganath** 901 Compliance crack length relations for the four-point bend specimen

Kang Yong Lee and **Woon Cheon Baik** 909 Boundary element analysis of thermal stress intensity factors for interface Griffith and cusp cracks

R. Narasimhan 919 A numerical study of fracture initiation in a ductile material containing a dual population of second-phase particles—I. Static loading

R. Narasimhan 935 A numerical study of fracture initiation in a ductile material containing a dual population of second-phase particles—II. Dynamic loading

Technical Note

B. Nageswara Rao 949 Acceptance criterion on the invalid fracture toughness data of M250 grade maraging steel sheet material

I Software Survey Section

i Index to Volume 47